



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

4.5NR-OH
Job Sheet 176795



Part No: 4.5NR-OH

Job Qty: 1 ea

Part Name: Nubbins Receiver Hook



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 5/1/18

Job Tracking No: RA210 SN: 03-16023-01

Due Date: 5/18/18

Created By: Michelle Gagnon-Donovan

Type: Return

Description:

Note: DWG OM & OOPM-4.5NR Rev. 5 IPP Rev. A 18.05.01 new issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run hrs	Workcenter / Supplier	Lead Time	
100	Start up Operation	1 Ea	5/18/18	5/18/18	0.00	0.00	Start Up Small Fab-4		
110	Small Fab	1 pcs	5/18/18	5/18/18	0.00	1.00	Small Fab-9		AP
120	QC	1 pcs	5/18/18	5/18/18	0.00	0.00	QC5		SB
130	Customer Acceptance	1 pcs	5/18/18	5/18/18	0.00	0.00			
140	Outsource	1 pcs	5/18/18	5/18/18	0.00	0.00	GRO002-VC	10	OCT 02 2018
150	Packaging	1 pcs	5/18/18	5/18/18	0.00	0.00	Packaging2		OCT 03 2018
160	QC	1 pcs	5/18/18	5/18/18	0.00	0.00	QC6		38
170	Small Fab	1 pcs	5/18/18	5/18/18	0.00	1.00	Small Fab-9		9-89
180	QC	1 pcs	5/18/18	5/18/18	0.00	0.00	QC5		
185	DC	1 pcs	5/18/18	5/18/18	0.00	0.00	DC		
190	Packaging	1 pcs	5/18/18	5/18/18	0.00	0.00	Packaging3-2		
200	QC21-FG	1 Ea	5/18/18	5/18/18	0.00	0.00	QC21		

Part Op 110 - TEST ASSEMBLY. DISASSEMBLE ASSEMBLY. INSPECT DAMAGE PART.

Descriptions: 170 - RE-ASSEMBLE. ***All assembly to be done in accordance with manual*** TEST ASSEMBLY.

185 - Photocopy blue file and create labels

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
4.5NR-AR	Nubbins Receiver Hook	1 pcs (1 ea)	100-Start up Operation	
11-04473	16GA Shielded Wire	1 (1 ea)	170-Small Fab	
188-FPSS-1032-1/4	Set Screw	2 Ea (2 ea)	170-Small Fab	
20NR-56P	Spring Anchor	3 pcs (3 ea)	170-Small Fab	
2595K22	Heat Shrink Tube	1 Ea (1 ea)	170-Small Fab	
32446	Crimp Terminal	2 Ea (2 ea)	170-Small Fab	
4.5NR-10	Lock Roller Pin	1 Ea (1 ea)	170-Small Fab	
4.5NR-12P	Latch	1 pcs (1 ea)	170-Small Fab	
4.5NR-13P	Lock Bearing Screw	1 pcs (1 ea)	170-Small Fab	
4.5NR-14P	Lock Roller	1 pcs (1 ea)	170-Small Fab	
4.5NR-15P	Lock Bearing	1 pcs (1 ea)	170-Small Fab	
4.5NR-16P	Lock	1 pcs (1 ea)	170-Small Fab	
4.5NR-17P	Lock Bushing	1 pcs (1 ea)	170-Small Fab	
4.5NR-18P	Load Stop	1 pcs (1 ea)	170-Small Fab	
4.5NR-20P	Load Stop Bushing	2 pcs (2 ea)	170-Small Fab	

Plex 5/1/18 10:09 AM Dart.Gagnon.Michelle

4.5NR-21	Spring Anchor	3 (3 ea)	170-Small Fab
4.5NR-23P	Load Stop Back Bumper	1 pcs (1 ea)	170-Small Fab
4.5NR-24P	Load Stop Front Bumper	1 pcs (1 ea)	170-Small Fab
4.5NR-25P	Side plate Solenoid	1 pcs (1 ea)	170-Small Fab
4.5NR-27P	Solenoid	1 pcs (1 ea)	170-Small Fab
4.5NR-28P	Solenoid Cover	1 pcs (1 ea)	170-Small Fab
4.5NR-3	Load Stop Stiffener	2 Ea (2 ea)	170-Small Fab
4.5NR-30P	Solenoid Cover Screw	2 pcs (2 ea)	170-Small Fab
4.5NR-32P	Manual Release Knob	1 pcs (1 ea)	170-Small Fab
4.5NR-33P	Cage Spacer	1 pcs (1 ea)	170-Small Fab
4.5NR-34P	Load Rail	2 pcs (2 ea)	170-Small Fab
4.5NR-35P	Latch Bushing	2 pcs (2 ea)	170-Small Fab
4.5NR-36P	Latch Spring	2 pcs (2 ea)	170-Small Fab
4.5NR-38P	Funnel Sub-Assembly	1 pcs (1 ea)	170-Small Fab
4.5NR-39P	Keeper Spring	1 pcs (1 ea)	170-Small Fab
4.5NR-4	Bolt	2 Ea (2 ea)	170-Small Fab
4.5NR-40P	Keeper	1 pcs (1 ea)	170-Small Fab
4.5NR-41P	Latch Roller	1 pcs (1 ea)	170-Small Fab
4.5NR-43P	Lever	1 pcs (1 ea)	170-Small Fab
4.5NR-44P	Latch Pin	1 pcs (1 ea)	170-Small Fab
4.5NR-45P	Latch Roller Pin	1 pcs (1 ea)	170-Small Fab
4.5NR-46P	Lever Bushing	1 pcs (1 ea)	170-Small Fab
4.5NR-47P	Front Stiffener	1 pcs (1 ea)	170-Small Fab
4.5NR-50P	Lifter Pin	1 pcs (1 ea)	170-Small Fab
4.5NR-52P	Keeper Bushing	1 pcs (1 ea)	170-Small Fab
4.5NR-6	Side Plate Cover	1 Ea (1 ea)	170-Small Fab
4.5NR-7P	Lifter Bushing	2 pcs (2 ea)	170-Small Fab
4.5NR-8P	Lifter	1 pcs (1 ea)	170-Small Fab
4.5NR-9P	Lifter/Load Stop Spring	2 pcs (2 ea)	170-Small Fab
AN6-13A	Bolt	6 Ea (6 ea)	170-Small Fab
AN6-14A	Machine Bolt 3/8-24 X 1.58 - Steel	1 Ea (1 ea)	170-Small Fab
AN6-24A	Hex Bolt 3/8-24 X 2 1/2"	1 Ea (1 ea)	170-Small Fab
AN6-40A	3/8-24 Bolt X 3" Long	1 Ea (1 ea)	170-Small Fab
AN7-24A	Bolt	1 Ea (1 ea)	170-Small Fab
AN7-40A	Bolt	1 (1 ea)	170-Small Fab
C10-7P	Locating Pin	2 pcs (2 ea)	170-Small Fab
C45-10-1P	Spring Pin	1 pcs (1 ea)	170-Small Fab
C45-13-2P	Spacer	2 pcs (2 ea)	170-Small Fab
C45-3-2-1P	Snap Ring	2 pcs (2 ea)	170-Small Fab
C45-3-4-1P	Retaining Ring	2 pcs (2 ea)	170-Small Fab
C45-3-5P	Spacer	2 pcs (2 ea)	170-Small Fab
CORD GRIP	Cord Grip	1 pcs (1 ea)	170-Small Fab
EL-PLUG-M	3-Prong Male Spade Plug	1 Ea (1 ea)	170-Small Fab
MS21044N6	Nut, Self-Lock .375-24, UNJF-3B	1 Ea (1 ea)	170-Small Fab
MS21044N7	Keeper Nut	2 Ea (2 ea)	170-Small Fab
MS21083N3	Nut	2 Ea (2 ea)	170-Small Fab
MS21083N6	Nut	1 Ea (1 ea)	170-Small Fab
NAS1149F0332P	Washer	2 Ea (2 ea)	170-Small Fab
NAS1149F0632P	Washer	2 Ea (2 ea)	170-Small Fab
NAS1149F0663P	Washer	9 Ea (9 ea)	170-Small Fab
NAS1149F0763P	Washer	4 Ea (4 ea)	170-Small Fab

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Start up Operation	4.5NR	1	0	0
170-Small Fab	11-04473	1	0	0
	188-FPSS-1032-1/4	2	104	0
	20NR-56P	3	14	0
	2595K22	1	25	0
	32446	2	100	0
	4.5NR-10	1	0	0
	4.5NR-12P	1	38	0
	4.5NR-13P	1	7	0
	4.5NR-14P	1	30	0
	4.5NR-15P	1	4	0
	4.5NR-16P	1	14	0
	4.5NR-17P	1	23	0
	4.5NR-18P	1	11	0
	4.5NR-20P	2	19	0
	4.5NR-21	3	0	0
	4.5NR-23P	1	11	0
	4.5NR-24P	1	12	0
	4.5NR-25P	1	3	0
	4.5NR-27P	1	29	0
	4.5NR-28P	1	8	0
	4.5NR-3	2	0	0
	4.5NR-30P	2	15	0
	4.5NR-32P	1	30	0
	4.5NR-33P	1	7	0
	4.5NR-34P	2	12	0
	4.5NR-35P	2	11	0
	4.5NR-36P	2	10	0
	4.5NR-38P	1	4	0
	4.5NR-39P	1	48	0
	4.5NR-4	2	0	0
	4.5NR-40P	1	9	0
	4.5NR-41P	1	37	0
	4.5NR-43P	1	8	0
	4.5NR-44P	1	46	0
	4.5NR-45P	1	8	0
	4.5NR-46P	1	80	0
	4.5NR-47P	1	9	0
	4.5NR-50P	1	5	0
	4.5NR-52P	1	9	0
	4.5NR-6	1	0	0
	4.5NR-7P	2	26	0
	4.5NR-8P	1	9	0
	4.5NR-9P	2	8	0
	AN6-13A	6	51	0
	AN6-14A	1	0	0
	AN6-24A	1	0	0
	AN6-40A	1	127	0
	AN7-24A	1	0	0
	AN7-40A	1	0	0
	C10-7P	2	7	0
	C45-10-1P	1	47	0
	C45-13-2P	2	38	0
	C45-3-2-1P	2	339	0
	C45-3-4-1P	2	87	0
	C45-3-5P	2	98	0
	CORD GRIP	1	7	0
	EL-PLUG-M	1	58	0
	MS21044N6	1	72	0
	MS21044N7	2	0	0
	MS21083N3	2	87	0
	MS21083N6	1	25	0
	NAS1149F0332P	2	1,653	0
	NAS1149F0632P	2	646	0
	NAS1149F0663P	9	983	0
	NAS1149F0763P	4	0	0

5/1/2018

[Dart Hawkesbury] Job Sheet - Gagnon-Donovan, Michelle

Part Specifications
Specifications could not be found.

Plex 5/1/18 10:09 AM Dart.Gagnon.Michelle

Inspection Sheet Complete RA210

Part Number	Batch / Serial #	Quantity	Part Complete	Rev/CHG Current	New Paperwork	New Labels	Disposition	Work order #	Work order Instructions
4.5NR-AR	03-16023-01	1	☐ Yes	☐ Yes	☐ Yes	☐ Yes	CUSTOMER SUPPLIED	S051648	Customer supplied part. Customer sending 4.5NR serial# 03-16023-01 to be overhaul. It was notice that keeper assembly has been damage and previously repair by customer. Production will need to be notify if customer wants the keeper assembly replace or leave as is. Make sure test report is attach with parts and return to customer.
0		0	☐ Yes	☐ Yes	☐ Yes	☐ Yes			
0		0	☐ Yes	☐ Yes	☐ Yes	☐ Yes			
0		0	☐ Yes	☐ Yes	☐ Yes	☐ Yes			
0		0	☐ Yes	☐ Yes	☐ Yes	☐ Yes			
0		0	☐ Yes	☐ Yes	☐ Yes	☐ Yes			

QC Approval: P.D.

Date: 30-Apr-18



Remote Cargo Hook Test Form

4.5NR

PRETEST

Work Order

176795

Customer

RA 210

Serial Number

03-16023-01

Date

2018/08/27

# of Releases	Load (Lbs.)	Release Method	Remarks	Result	Pass/Fail
1	11,250	Static Hold	Hold for two Minutes and reduce load to zero	N/A	PASS
105	2,250	Electircal, 25 volts	No "hang ups" permitted	N/A	PASS
2	4,500	Electircal, 22 volts	Current shall not exceed 4.5A	4.2 A	PASS
2	3,500	Electircal, 22 volts	Current shall not exceed 4.5A	A	
2	2,500	Electircal, 22 volts	Current shall not exceed 4.5A	4.2 A	PASS
2	1,500	Electircal, 22 volts	Current shall not exceed 4.5A	A	
2	500	Electircal, 22 volts	Current shall not exceed 4.5A	4.2 A	PASS
1	4,500	Electircal, 20 volts	Current shall not exceed 4.1A	3.8 A	PASS
1	4,500	Electircal, 28 volts	Current shall not exceed 5.7A	5.3 A	PASS
1	4,500	Manual		N/A	
1	N/A	Solenoid Ohms	Shall not exceed 4.9-5.6 Ohms	5.6 Ω	PASS
1	N/A	Electircal Continuity	Across both wires	N/A	PASS

Test Conducted By:

ALAIN PATRY

Signature:

Technician

QC 5 Small FAB / QA

Submit



Overhaul Incoming Inspection
C2 Cargo Hook

Customer

BA210 / 176795

Date

2018/08/27

Part Number

Serial Number

03-16023-01

Additional Recommended Replacement Parts

Part Number to Replace

Customer Approval

4.5NR-40 KEEPER (1)

☐☐☐☐☐☐☐☐☐☐

Inspected By



NDT

DATE: 2018/08/27

MODEL: 4.5NR

S/N : 03-16023-01 / RA210

P/N	DESCRIPTION	QUANTITY
4.5NR-25	SIDE PLATE SEZENOID	1
4.5NR-6	" "	1
4.5NR-41	LATCH ROLLER	1
4.5NR-43	LEVER	1
4.5NR-44	LATCH PIN	1
4.5NR-45	LATCH ROLLER PIN	1
4.5NR- 50 8	LIFTER	1
4.5NR-16	LOCK	1
4.5NR-14	LOCK ROLLER	1
4.5NR-12	LATCH	1
4.5NR-10	LOCK ROLLER PIN	1
4.5NR-18	LOAD STOP	1



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO041213

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO041213

PO Date: 10/2/18

Due Date: 10/4/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
Phone: clavoie@dartaero.com

E-MAILED
OCT 02 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	176795	4.5NR-OH	Nubbins Receiver Hook	Firmed	-	10/4/18	1 pcs	0 pcs	1 pcs	\$178.00/pcs	\$178.00
					LX	OCT 03 2018					
Line Item Note: magnaflex											
2	OH183843	SWA6A-2-OH	Electric Swivel 6,000 lb Safe Work Load (2,721 kg)	Firmed	-	10/4/18	1 pcs	0 pcs	1 pcs	\$178.00/pcs	\$178.00
					LX	OCT 03 2018					
Line Item Note: magnaflex											

Grand Total: \$356.00

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 10/2/18 10:33 AM dart.lavoie.chantal

DAS
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CZ



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

SUBCONTRACT SHIPPER

SUBCONTRACT SHIP TO

Ship To: Skyservice
6120 Midfield Road
Mississauga, ON L5P 1B1 Canada
Phone: 905-678-5636 Fax: 905-678-5841

SHIPPER

Shipper No: 690
Shipper Date: 10/2/18
Carrier: *
Ship Via:
Vehicle Reg:
Note:
Freight Terms:

Part Information

Part No: 4.5NR-OH
Cust Part No: 4.5NR
Reference No:
Part Information Note: DWG OM & OOPM-4.5NR Rev. 5 IPP Rev. A
18.05.01 new issue DP Verify DD
Drawing No:
Program:
Program Customer:
Addl Docs:
Commercial: Product Line: Nubbins Receiver
Primary OEM Application: Generic
Manufacturer: DART
Advertised on web?: No

Name: Nubbins Receiver Hook
Product Family: External Load
Piece Weight: 0 lbs
Alloy Type:
Alloy - Temper:
Description:
Quantity:

OPERATION

Operation: Outsource - 140
Description:
Note:

DETAIL

Part	Operation	PO	Job	Container	Heat Code	Net Weight (lbs)	Gross Weight (lbs)	Quantity
4.5NR-OH	Outsource	PO041213	176795	S069110		0	0	1

Driver Signature

Customer Copy

Plex 10/2/18 10:53 AM dart.lavoie.chantal

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO37853	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO041213
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

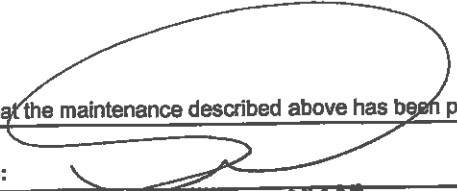
CARRY OUT NDT ON:

1 RECEIVER HOOK , P/N# 4.5NR-OH , J/S# 176795

1 ELECTRIC SWIVEL , P/N# SWA6A-2-OH , J/S# OH183843

Action Taken:						Date:	Initial/Stamp:
LPI & MPI C/O IAW ASTM E-1417 AND E-1444 REV. 16						OCT 03 2018	 DOT-APP. 20 53-89
CRACK FOUND ON 1 SIDE PLATE, MARKED WITH RED TAG							
REMAINING ITEMS: NO CRACK FOUND							
MAGBENCH S/N 208123 CAL DUE: 16-OCT-2018 POWDER 14A BATCH# MPO13600 CARRIER II BATCH# MPO20165 PEN ZL-37, MPO13139, CLEANER SKC-S MPO15030, EMU. MPO15896, DEV. MPO15030, UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp	Date:
 RAFIK MELIKYAN		OCT 03 2018



Overhaul Incoming Inspection

4.5 NR Cargo Hook

Customer

176795 / RA210

Date

2018/10/11

Part Number

Serial Number

03-16023-01

Additional Recommended Replacement Parts

Part Number to Replace

Customer Approval

4.5 NR-25 SIDE PLATE SELENOID

☐☐☐☐☐☐☐☐☐☐

Inspected By

ALAIN PATRY



DATE: 2018/10/11

NICKEL PLATING

MODEL: 4.5 NR

S/N : 03-16023-01 / RA210

P/N	DESCRIPTION	QUANTITY
4.5NR-16	LOCK	1
4.5NR-12	LATCH	1
4.5NR-18	LOAD STOP	1
4.5NR-8	LIFTER	1
4.5NR-10	LOCK ROLLER PIN	1
4.5NR-3	LOAD STOP STIFFENER	2
4.5NR-4	SIDE " "	2
4.5NR-47	FRONT " "	1
4.5NR-34	LOAD RAIL	2



Overhaul Incoming Inspection

4.5NR Cargo Hook

Customer 176795 / RA 210

Date _____

Part Number 4.5NR

Serial Number 03-16023-0

Additional Recommended Replacement Parts

Part Number to Replace

Customer Approval

(1) x 4.5NR-25 SIDE PLATE

☐

(1) x 4.5NR-6 SIDE PLATE

☐

(2) x 4.5NR-34 SIDE RAIL

☐

(1) x 4.5NR-40 KEEPER

☐☐

(1) OVERHAUL KIT

☐☐☐☐☐

Inspected By ALAN PATRY



DATE: 2018/10/11

NICKEL PLATING

MODEL: 4.5 NR

S/N : 03-16023-01 / RA210

P/N	DESCRIPTION	QUANTITY
4.5NR-16	LOCK	1
4.5NR-12	LATCH	1
4.5NR-18	LOAD STOP	1
4.5NR-8	LIFTER	1
4.5NR-10	LOCK ROLLER PIN	1
4.5NR-3	LOAD STOP STIFFENER	2
4.5NR-4	SIDE " "	2
4.5NR-47	FRONT " "	1
4.5NR-34	LOAD RAIL	2

Inspection Sheet Complete RA210

Part Number	Batch / Serial #	Quantity	Part Complete	Rev/CHG Current	New Paperwork	New Labels	Disposition	Work order #	Work order instructions
4.5NR-AR	03-16023-01	1	☐ Yes	☐ Yes	☐ Yes	☐ Yes	DAMAGED/SCRAP	S051648	Disposition changed October 7, 2019 by Valerie Miller as per JL as is not worth the re-work.
0		0	☐ Yes	☐ Yes	☐ Yes				
0		0	☐ Yes	☐ Yes	☐ Yes				
0		0	☐ Yes	☐ Yes	☐ Yes				
0		0	☐ Yes	☐ Yes	☐ Yes				

QC Approval: P.D.

Date: 30-Apr-18

job 176795